

Mill Creek Subwatershed Chatham, Cape Cod, Massachusetts

The Mill Creek Subwatershed is located in Chatham and Harwich. It has an area of 672 acres. Routes 28 and 137 run through the northern portion of this watershed. The area is marked by intense development.

Much of the nutrient loading into the Mill Creek subwatershed enters the system along the northern limits. Due to the relatively narrow channels that connect the upper portions of this embayment to Nantucket Sound, flushing characteristics are relatively poor. The large expanses of salt marsh in the system do, however, allow these water bodies to be more tolerant of high nitrogen loads.

According to the Water Quality Analyses of Coastal Embayments in Chatham, MA (2001), water quality and biological indicator data show that the smaller embayment systems are heavily impaired by watershed nitrogen inputs. Taylor's Pond and most of the Cockle Creek system are presently showing poor habitat quality. These embayments are sufficiently eutrophic to be unable to support significant fauna populations or eelgrass.

Two shellfish resource areas are present in this subwatershed. Both Mill Creek and Taylor's Pond have been conditionally approved (seasonal) for shellfishing since 1991 and are considered moderate resource areas. Mill Creek is also home to the town's propagation field growout area.

Both of these areas have an issue with stormwater runoff that the town is working to address. There is a limited stormwater runoff problem along Mill Creek Road. A remediation project is scheduled to begin in summer 2002 for completion in 2003. A minor stormwater runoff problem also exists from Taylor's Pond Road at the town landing. The town has recently installed new drainage along the road and at the landing to mitigate the problem. Despite these runoff problems, surveys have determined most likely source of summer/fall water quality problems in these two areas is extensive marsh system and accompanying wildlife/waterfowl (i.e. "natural").

Most of the Town of Chatham has municipal water. The older section of town, near Mill Pond, is publicly sewered. Sewers run up Main Street and Cross Street, and out of town to West Chatham. There are 450-500 sewer connections with five miles of gravity sewer and three miles of pressure sewer. The treatment plant can handle 440,000 gallons/day, though it is limited to 150,000 gallons/day under an administrative order. Currently the plant is processing about 120,000 gallons/day on an annual average. The effluent is being denitrified. The rest of the town is served by septic systems. The town is currently developing a Comprehensive Water Resources Management Plan.

Stewards:

- Chatham Water Watchers
- Friends of Chatham Waterways

Studies conducted in the watershed:

- Water Quality Analyses of Coastal Embayments in Chatham, MA (Draft Report). May 2001. Conducted by Applied Coastal Research and Engineering, Inc., Applied Science Associates, Inc., and School for Marine Science and Technology.
- Cape Cod Atlas of Tidally Restricted Salt Marshes. 2001. Cape Cod Commission.

- Chatham Priority Open Space Project – 2001. The Compact of Cape Cod Conservation Trusts. Created a ranking list of undeveloped parcels that, if acquired as open space, would protect the most important natural resource areas in Chatham.
- Taylor’s Pond was selected as a priority area for the Estuaries Project – Southeastern Massachusetts Embayment Restoration, funded by the state and UMass Dartmouth. The goal of the project is to develop critical nutrient loading thresholds for each embayment to aid in water resources planning and which will support federal requirements for the development of Total Maximum Daily Loads for impaired surface waters.

Who is collecting water quality data and where:

- Chatham Water Watchers sample Taylor’s Pond/Mill Creek for dissolved oxygen, water temperature and clarity, water depth, salinity, nutrients, and chlorophyll a/pheophytin.

Management actions taken:

- Remediation of a limited stormwater runoff problem along Mill Creek Road. Town has funding and engineering began in summer 2002 with construction within 12-18 months.
- Town recently installed new drainage along Taylor’s Pond Road to mitigate runoff problems.
- Construction of a parking area out of “Grasscrete” (porous paving blocks) is planned at the town landing as a trial.

Subwatershed facts: (For data sources see Appendix)

- 21 E sites: 1, located at Clark’s Auto Service, Main St., Chatham
- Solid waste sites: none
- Zone IIs located in this watershed: 2
- Interim Wellhead Protection Areas (IWPAs): none
- Percent of the undeveloped land that is protected (according to 1985/1990 data): 38%
- Acres of existing wetlands: 71
- Certified vernal pools: none
- Named freshwater ponds: none
- Named rivers or creeks: Mill Creek
- 1998 Massachusetts 303(d) List of Impaired Waterbodies: Mill Creek – pathogens.
- Shellfish growing areas: Mill Creek and Taylor’s Pond are conditionally approved for shellfish harvesting (since 1991).

Priorities:

- Develop critical nutrient loading thresholds for Taylor’s Pond to aid in water resources planning and the development of TMDLs.
- Implement those salt marsh restoration projects identified in the 2001 *Cape Cod Atlas of Tidally Restricted Salt Marshes* that have been evaluated and prioritized by the town. The site located in this subwatershed is Chatham Lane restriction of unnamed channel off Mill Creek (Site CH-2).
- Acquire open space. Parcels considered a priority for acquisition for water supply protection and development: Chatham Tracts 1, 3, 5, 8, 9, and 10 were ranked as having medium or high water supply development potential in the Cape Cod Commission’s *Priority Land Acquisition Assessment Project* (April 1999). These tracts are located throughout the town of Chatham.

Recreation:

Camping areas: none

Golf courses: none

Pathways and trails:

- www.capecodcommission.org/pathways/trailguide.htm

Public access:

- www.state.ma.us/dfwele/pab/pabSEmap.htm

Public beaches and landings:

- Forest Beach

Mill Creek

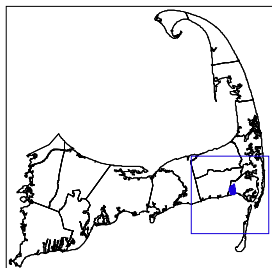
Chatham, MA



Watershed Resources



0 0.2 0.4 Miles



Natural Heritage and Endangered Species Program Data

- Certified Vernal Pool
- Priority Habitats of Rare Species
- Estimated Habitats of Rare Species

Groundwater Protection Areas

- Interim Wellhead Protection Area
- Zone II
- Solid Waste Facility

Watershed Boundary

Anadromous Fish Run

Shellfish Growing Areas

- APPROVED
- CONDITIONALLY APPROVED
- MANAGEMENT CLOSURE
- PROHIBITED
- RESTRICTED

Open Space

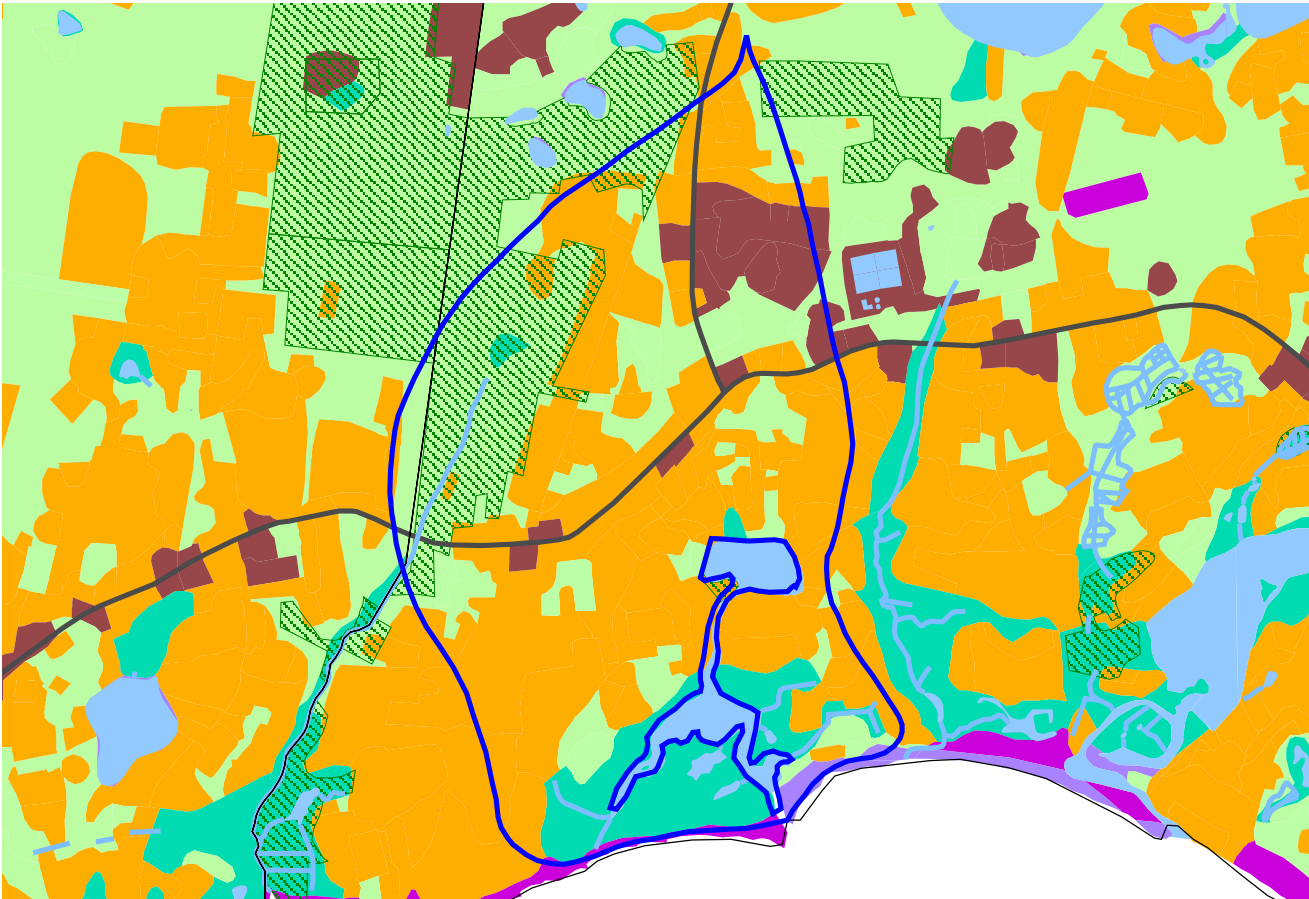
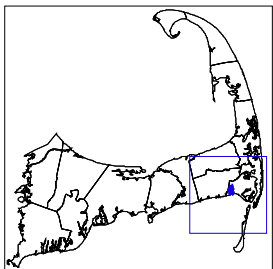
Streams

Ponds

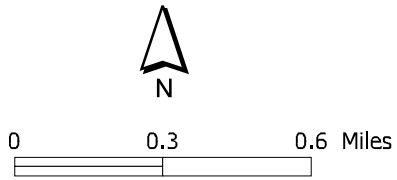
Roads

Mill Creek











Chatham, MA



Land Use



Land Use

- | | | | |
|---|---------------------------|---|----------------------|
|  | non-residential developed |  | Streams |
|  | open land |  | Ponds |
|  | recreation |  | Watershed Boundary |
|  | residential |  | Protected Open Space |
|  | water | | |
|  | wetland | | |